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## A NEW GENUS AND SPECIES OF APHIDAE ON SCOTCH BROOM IN OREGON

(Homoptera)

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***Gentnera* Essig, new genus**

(Figures 1-2)

Body elongate with small acorn-like tubercles on the head and body of the alates and on the head of the apterae; body tubercles on aptera finger-like, short anteriorly and gradually lengthening posteriorly and arranged in 2 pairs on the prothorax, 2 small pairs and 2 larger pairs on mesothorax and 2 pairs on the mesothorax and all abdominal segments, excepting the last which has a single pair. The marginal tubercles longer. The pair supporting the cornicles in the alate are not greater than the others, but in the aptera they are much reduced in length. Antennae 6-segmented; slightly longer than half the length of the body; with elongate or oval secondary sensoria; unguis slightly more than half the length of the base; imbricated and with very short hairs. Compound eyes normal, with basal tubercle. Rostrum extends nearly to the second coxae, rather blunt. Legs short. Wings normal aphist-type excepting the media which is vestigial or absent, and the cubitus of the hind wings may be absent or present. The hamuli consist of but 2 acutely curved hooks. Cornicles very small—almost pore-like, situated on the base of abdominal marginal tubercles VI. Anal plate bilobed and with few hairs. Cauda knobbed with wide base and few hairs.

Body tubercles on alate parthenogenetic female and on alate male acorn-like. Secondary sensoria occur on antennal segment III of alate and apterous

parthenogenetic females and on segments III–VI of the alate male. Other characters may be noted in the accompanying illustrations.

This genus somewhat resembles *Anomalaphis* Essig but differs in having many less body tubercles which lack terminal setae and have much reduced and differently shaped cornicles.

Type species: *Gentnera oregona* new species.

*Gentnera oregona* Essig, new species

(Figures 1–2)

TYPE: *Alate parthenogenetic female* (Fig. 1).—Small, black and yellowish- or greenish-gray with 2 marginal rows of dark pigmented areas at the bases of the lateral abdominal tubercles and 2 rows of larger transverse pigmented areas on the dorsum of the abdomen; head, thorax and appendages dusky to black. The pigmented areas may be finely imbricated. Front of head with 2 short tubercles each tipped with a small capitate seta. Antennal segment I large, rugose and with several inconspicuous hairs. Other segments as figured. Segment III with 7–9 oval secondary sensoria. Rostrum as drawn; extends nearly to 2nd coxae; has few short hairs. Forewings with aphis-type venation, but the radial sector represented only by a vestigial apical pattern. Hind wings small with normal venation as illustrated. The hamuli consist of 2 acutely curved hooks. Legs rather small with short hairs. Cornicles small, truncate, broader than long; situated at the bases of lateral tubercles. Genital plate oval with many fine short hairs. Anal plate bifurcate and with 2 long curved bristles and a few short hairs. Cauda knobbed with wide base; with 2 long and several smaller spines.

Length of body 1.20 mm.; antennae 0.80 mm.; wing 1.50 mm.; hind tibiae 0.50 mm.; cauda 0.10 mm.

*Apterous parthenogenetic female*.—Body narrowly elongate, grayish or dusky because of many transverse dark broken bands; dusky antennae and legs. The pair of tubercles on vertex more prominent than in the alate. Many conspicuous finger-like tubercles, colorless, imbricated and devoid of spines and setae. Three pairs of small dorsal tubercles on head, 1 median pair on pronotum and 2 pairs on metanotum acorn-shaped, whereas all other tubercles are arranged in a double series down middle and along each lateral margin as figured. There are 12 pairs counting the apical 2 pairs on segment VII. Antennae short, 6-segmented; nearly circular secondary sensoria present on segment III in the following combinations on various individuals: 1–2, 2–2, 2–3, 3–4, 4–0, 4–4, and 4–5. Legs short and rather stout. Rostrum much as in alate; cornicles somewhat broader than in alate. Anal plate and cauda much the same as in the alate. Length of body 1.50 mm.; width 0.60 mm.; antennae 0.80 mm.; hind tibia 0.45 mm.; longest body tubercle on segment V 0.20 mm.; shortest segment VI bears the cornicles.

*Apterous oviparous female*.—Similar to apterous parthenogenetic female, differing by being smaller and in having fewer secondary sensoria on antennal segment III, distributed in the following combinations per individual (number of individuals in paranthesis): 0–3 (1), 1–2 (3), 2–2 (3), 2–3 (7), 2–4 (3), 2–5 (1), 3–3 (7), 3–4 (2), 3–5 (1), 4–4 (1), 4–5 (1), 4–6 (1), representing a total of 31 specimens. Hind femora thickened and bears about

20 sexual sensoria of different sizes, the number variable and the sensoria quite often rather indefinite and indistinct. Head tubercles may project forwards in immature forms. Length of body 1.40 mm.; width 0.55 mm.; length of antennae 0.60 mm.; hind tibiae 0.40 mm.; cauda 0.10 mm.

*Male*: alate; somewhat smaller than alate parthenogenetic female, coloration much the same. Wing venation also after the same pattern with radial sector of forewings rudimentary or absent and cubitus of hind wings present or absent; in general aspects and color pattern quite like that of alate parthenogenetic female. Cauda, anal plate and sexual organs as illustrated. Secondary circular sensoria occur on all antennal segments excepting I and II. For 16 individuals they were distributed according to the following pattern (the number in parenthesis represents the number of specimens ex-

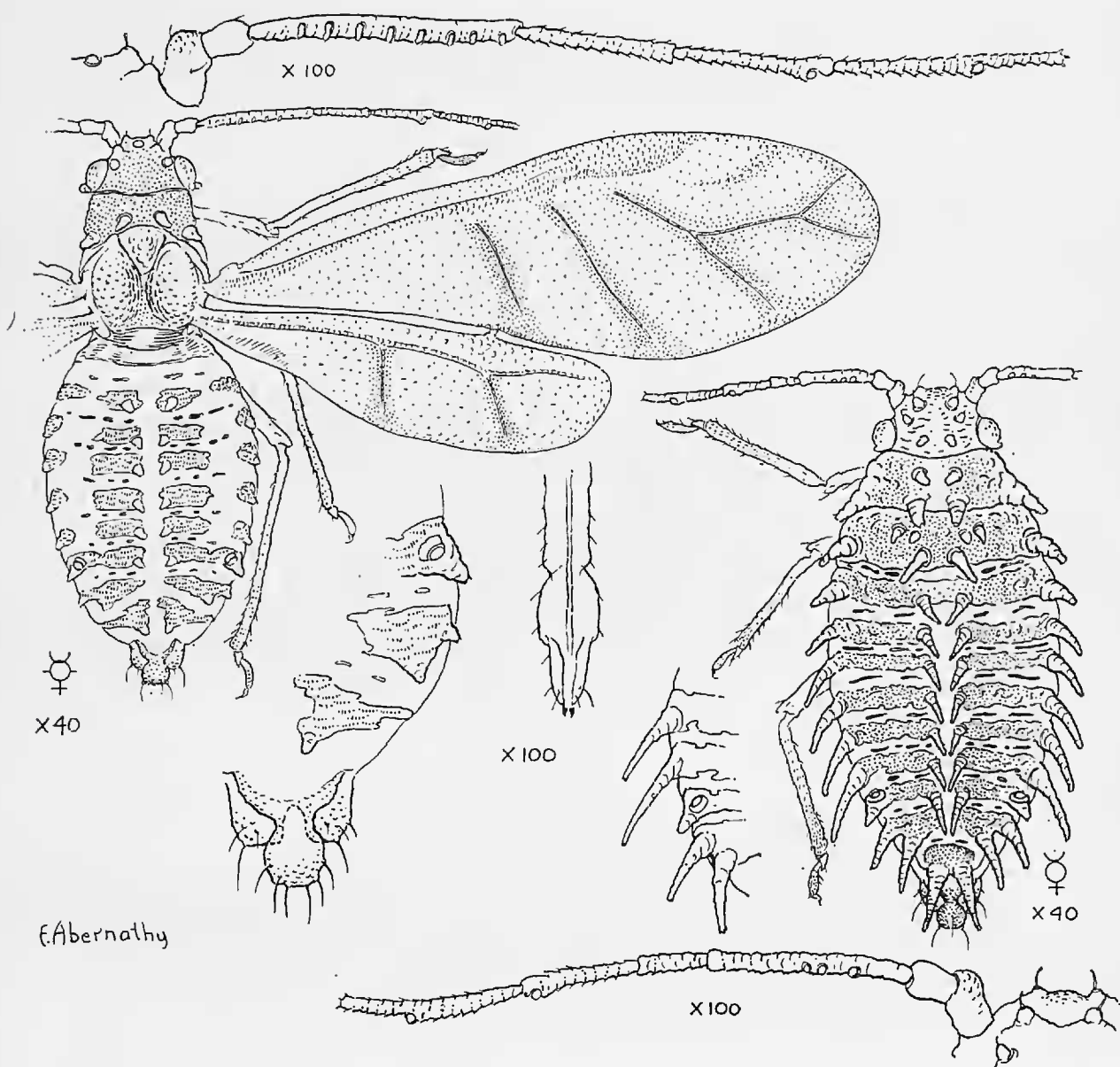


Fig. 1. *Gentnera oregona* Essig, n. sp. Alate and apterous parthenogenetic females together with enlargements of the antennae, rostrum, a portion of the abdomen, and the anal plate and cauda, rostrum, portion of abdominal margin of segments IV–VIII showing tubercles and cornicle, and antenna and front of the apterous form. Enlargements indicated. (Drawings by Frieda Abernathy.)

amined): III: 8-x (1), 9-12 (1), 10-10 (2), 10-11 (5), 10-13 (1), 11-11 (4), 11-12 (2); IV: 0-2 (1), 1-1 (7), 1-2 (4), 2-x (2), 2-3 (1), 3-3 (1); V:1-x (2), 1-2 (6), 2-2 (4), 2-3 (1), 2-4 (1), 3-x (1), 3-3 (1); VI: 1-1 (3), 1-2 (4), 1-3 (2), 2-2 (5), 2-3 (2). (x indicates the other member was missing or hidden).

*Paratypes* show the following variations: secondary sensoria on antennal segment III vary in combinations per individual as follows: 7-8, 9-9, 12-13.

In the venation of the primary wings the radial sector may be completely absent or represented by an apical remnant. In no case noted was the vein complete. In the hind wings the media was present in all specimens but the cubitas was absent in 13 individual wings and present in 21 (males and alate parthenogenetic females).

*Type*—The type is an alate parthenogenetic female—mounted on a slide with a number of apterae and young. All the other specimens are designated as paratypes.

The collection studied consists of 244 adults and a number of young mounted on 28 slides.

*Host Plant and History*: This very interesting species was first collected on seedlings of "English broom" in his garden at Medford, Oregon, July 24, 1951, by L. G. Gentner, Entomologist and Assistant Superintendent of the Southern Oregon Branch Experiment Station, Medford, Oregon. He stated that "young plants were practically defoliated." This first lot consisted of alate and apterous parthenogenetic females in all stages of development. The specimens were so interesting and so different from any species heretofore collected in western North America that a great effort was made to find their origin. I immediately informed Mr. Gentner of his find and requested more information regarding all possible host plants and distribution. During the remainder of the year Mr. Gentner made more extensive collections and observations. He secured the sexual males and females, but could find them on no other hosts than the "English hybrids of Scotch Broom, *Cytisus scoparius* L." which his wife was growing in the garden. These seedlings were about 18 inches high and were considerably injured by the aphids. An examination of the surrounding country revealed no additional infestations. In October, Mr. Gentner visited the Moyer's Nursery, near Roseburg, Oregon from which the original plants had been obtained. "There

was only one shrub of this broom left, and I could find no aphid infestation." In summing up the situation Mr. Gentner wrote me (Sept. 17, 1951) as follows: "I haven't the least idea where this species could have originated but shall make an effort to determine other host plants and other infestations if possible."

The genus is named for L. G. Gentner, Entomologist of Oregon State College, who discovered and collected this and other interesting new species of aphids.

Since writing this paper the writer has received from F. L. Blanc, Bureau of Entomology, California State Department of Agriculture, a few specimens of this species collected by D. Zuckswert on the leaves of Scotch broom at Stockton, California, June 4, 1952. It would appear from this that the species may be quite widely distributed.

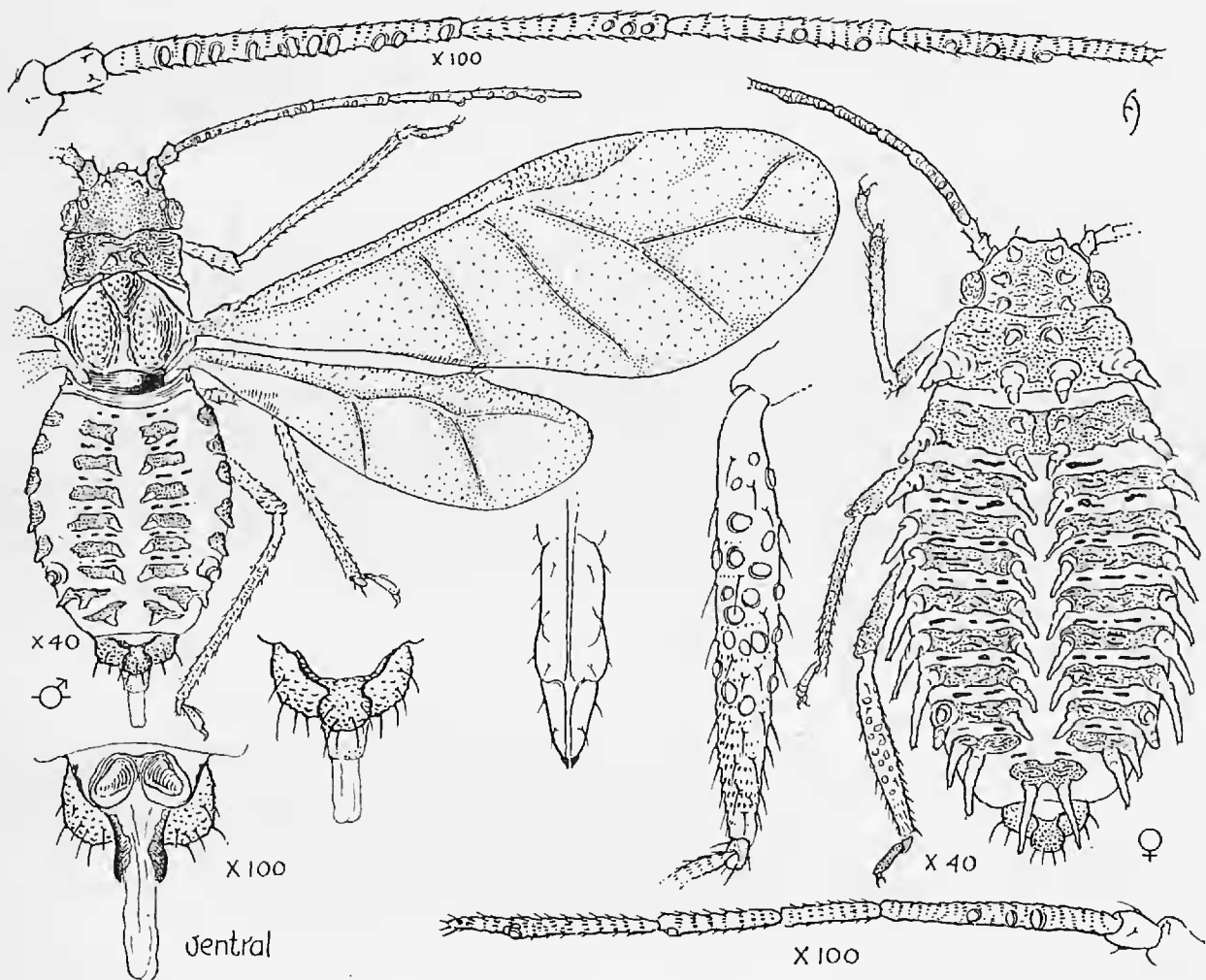


Fig. 2. *Gentnera oregona* Essig n. sp. Alate sexual male and apterous oviparous female with enlargements of the antenna, cauda and sexual organs of the male and the rostrum, hind tibia showing sexual sensoria, and the antenna of the female. Enlargements indicated. Drawings by Frieda Abernathy.)